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ABSTRACT

This workbook is intended for use by students taking part in a farm management simulation that has been designed to help them develop competency in both crop and livestock farming. The introductory section presents an overview of the workbook's contents. The remainder of the workbook contains rules for the farm management problem, farm layouts, crop reporting sheets and a tillage plan, a livestock report, budgets for a crop or livestock enterprise, and sample computer budgets. (MN)

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PREFACE

The farm management problem is designed for vocational agriculture students who require competency in both crop and livestock farming. The author has felt a need existed for some type of farm management problem or simulation that would be completed at or near the end of the student's vocational agriculture problem.

Students typically receive training in topic areas such as crops, soils, fertility, tillage, livestock selection, livestock feeding, and others. However, very little opportunity is afforded to put this training into a complete farm management problem, integrating all the areas. The author believes that completion of the farm management problem will give each student a better understanding of a commercial farming operation and its management.

A Farm Management Problem consists of a *Teacher Guide* and a *Student Workbook*. The teacher guide will provide you with the data, transparency masters, and other helpful information needed to work with your students. The student workbook provides a format for the students to plan and report information on their farm management problem. You will also find the student workbook helpful in the evaluation and grading of the students' work.

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Much information for both the teacher guide and the student workbook was lifted verbatim from the sources listed below and is used with permission. (Acknowledgment of each source so used is included at the bottom of the appropriate page.)

1) *Livestock Nutrition and Feeding*, Ohio Agricultural Education Curriculum Materials Service, The Ohio State University, Columbus, 1979.

2) *Livestock Breeding*, Ohio Agricultural Education Curriculum Materials Service, The Ohio State University, Columbus, 1979.

3) *Ohio Agronomy Guide*, Cooperative Extension Service, The Ohio State University, Columbus, 1985.

4) *The Farm Management Guide*, 15th edition, Doane-Western, Inc., St. Louis, MO, 1982.

5) Gillespie, James, *Modern Livestock and Poultry Production*, Delmar Publishers, Albany, NY, 1981.

AN OVERVIEW OF THE FARM MANAGEMENT PROBLEM WORKBOOK

Page 2

A. A set of rules provides general guidelines for you to follow in completing the *Farm Management Problem Workbook.*

B. You may need to make changes in land cost (see **Changes** column under #2) if your teacher so instructs, and you will need to fill in **dates** (in #8) and **interest rate** (in #9) which the teacher provides you.

Pages 3-4

A. Two farm layouts - flat and hilly - are given in order to provide a choice in the type of farm you select, based on the type of livestock or poultry enterprise you have chosen.

B. These farm layouts include soil test results, general land classification, and weed problems in each of the five fields. You will need this information to complete the crop reporting sheets, tillage plan, livestock report, and budgeting.

C. The *Changes* column in each field is for you to record any changes your instructor makes in the data.

D. The lines (•••••) between and around fields represent fence rows. The fences are in good condition and will hold livestock.

Pages 5-6

A Worksheets are provided for reporting information necessary in planning a cropping program. Space is provided on these worksheets for data from five fields on each farm layout. You will record what crop you grow and all related information in each of the five fields over a four-year crop rotation.

Page 7

A A chart is provided for you to report the tillage plan you select for each field and record the time required to conduct the cropping activities.

B. Below the tillage plan chart, you will record the required information about your livestock or poultry operation.

Pages 8-9

A. These pages contain the budgeting forms you will need if you do not have a computer system to generate budgets.

Pages 10-11

A. Sample crop and livestock budgets are included for you to use as a guide in completing the farm management problem.

RULES FOR THE FARM MANAGEMENT PROBLEM

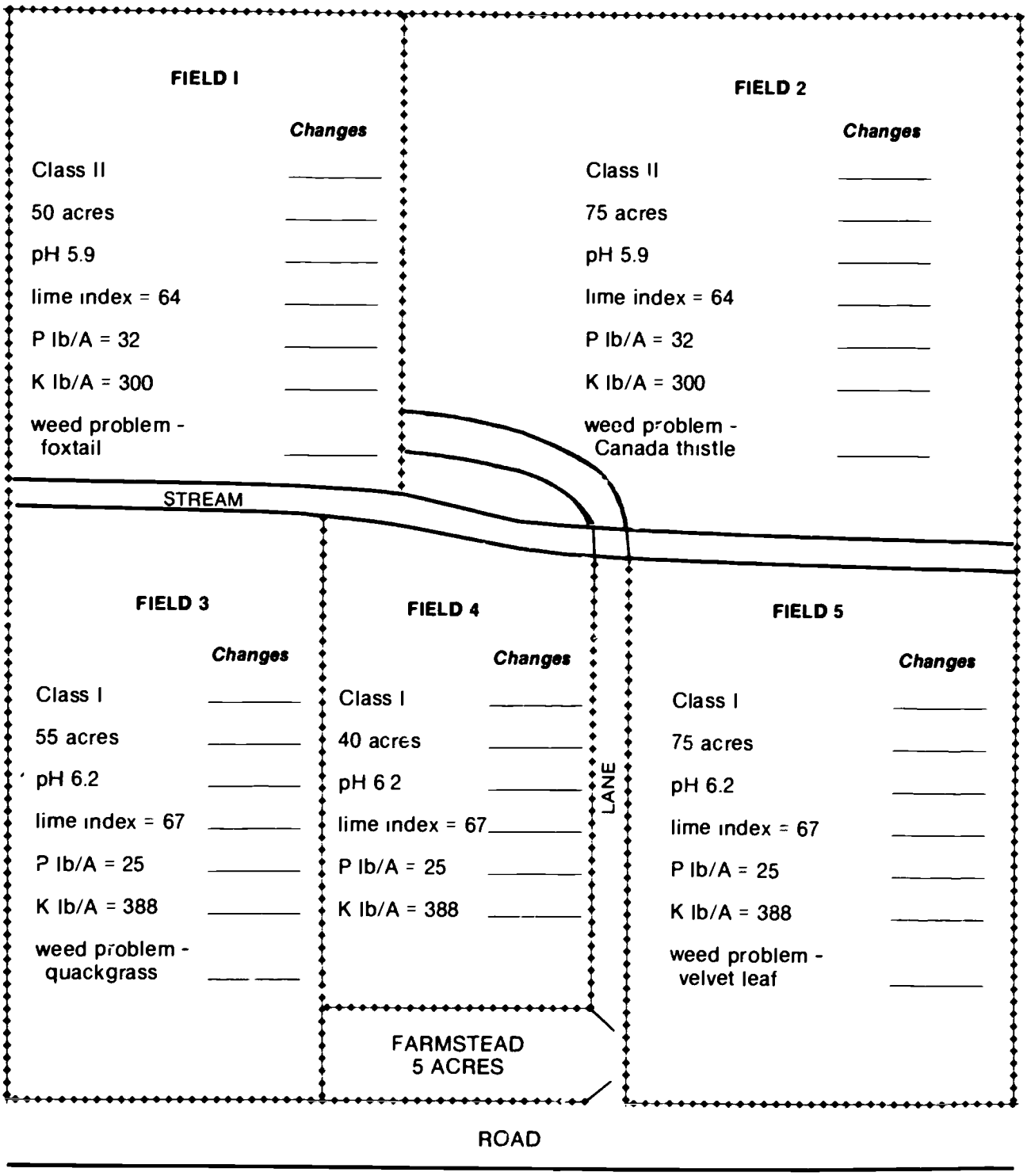
1. You may use the hill farm, flat farm, or your own farm (for which a soil test is required).
2. You have just acquired or rented a 300-acre farm (or you are using your parents' farm), for which you are required to pay the following amounts per year for the land.

Land Class	Land Cost per Acre	Changes	YIELD DATA			
			Corn (bushels)	Soybeans (bushels)	Wheat (bushels)	Hay (tons)
I	$90	_____	150	50	60	5
II	70	_____	120	40	45	3.5
III	50	_____	100	30	30	2
IV	40	_____	90	25	25	1.5
VI	25	_____				

3. In this farming program you will have at least 2 field crops and 1 livestock or poultry enterprise.
4. Set the farm program for a 4-year crop rotation for all fields. A small grain must be planted in one of the fields in one of the rotations for one year, followed by hay.
5. Prepare crop budgets for at least 2 different crops for the first year of crops only. Include seed, fertilizer, chemicals, equipment, drying and hauling, land, and interest or investment.
6. Report tillage methods, dates of planting, rates of planting, herbicide application rates, fertilizer rates, harvest dates, and marketing for the crops on the farm.
7. Each student in the class will have a different type of crop and livestock set-up.
8. For the livestock enterprises, prepare budgets from May _____ to May _____ . Show cost figures on feed, purchase of the animals, building and equipment, interest, and marketing and hauling charges.
9. In this problem we will assume that you have no money to put the crops out or to maintain the livestock. Therefore, you will have to borrow money at _____ interest.
10. For building and equipment charges, use the charges given to you

FARM LAYOUTS

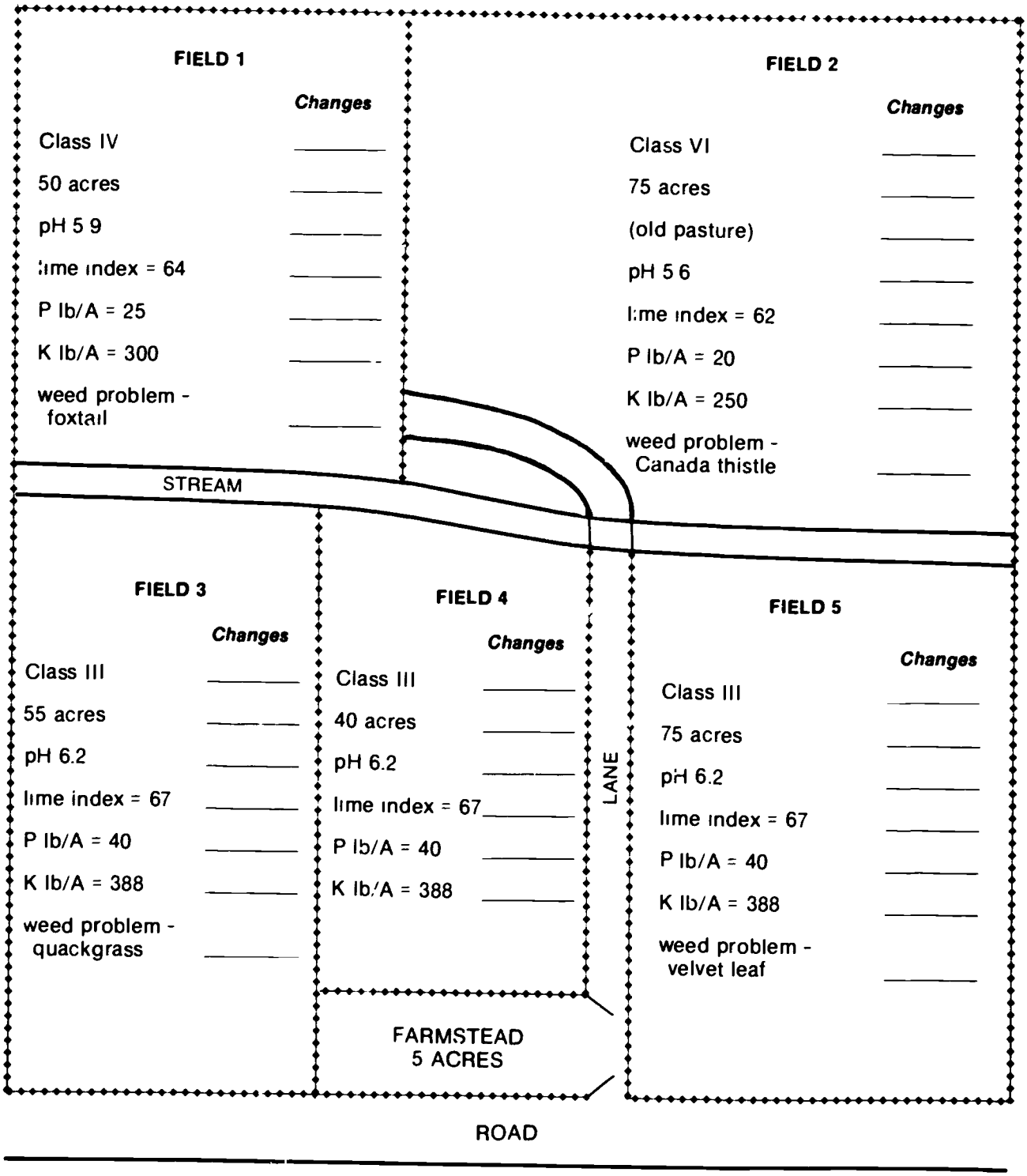
THE FLAT FARM



40 miles to terminal market
6 miles to grain elevator

TOTAL 300 ACRES

THE HILL FARM



40 miles to terminal market
6 miles to grain elevator

TOTAL 300 ACRES

CROP REPORTING SHEETS

1st Year of Crop Rotation					
	FIELDS				
	1	2	3	4	5
Crop					
Date of planting					
Plant population					
Herbicide & rate					
Herbicide & rate					
Herbicide & rate					
Insecticide & rate					
Fertilizer rate (N)					
Fertilizer rate (P)					
Fertilizer rate (K)					
Liming rate					
Date of harvest					

2nd Year of Crop Rotation					
	FIELDS				
	1	2	3	4	5
Crop					
Date of planting					
Plant population					
Herbicide & rate					
Herbicide & rate					
Herbicide & rate					
Insecticide & rate					
Fertilizer rate (N)					
Fertilizer rate (P)					
Fertilizer rate (K)					
Liming rate					
Date of harvest					

CROP REPORTING SHEETS *(continued)*

3rd Year of Crop Rotation					
	FIELDS				
	1	2	3	4	5
Crop					
Date of planting					
Plant population					
Herbicide & rate					
Herbicide & rate					
Herbicide & rate					
Insecticide & rate					
Fertilizer rate (N)					
Fertilizer rate (P)					
Fertilizer rate (K)					
Liming rate					
Date of harvest					

4th Year of Crop Rotation					
	FIELDS				
	1	2	3	4	5
Crop					
Date of planting					
Plant population					
Herbicide & rate					
Herbicide & rate					
Herbicide & rate					
Insecticide & rate					
Fertilizer rate (N)					
Fertilizer rate (P)					
Fertilizer rate (K)					
Liming rate					
Date of harvest					

CROP REPORTING SHEETS *(continued)*

TILLAGE PLAN

(for first cropping year only)

Summary of time requirement in hours

	FIELDS					
	1	2	3	4	5	Total
Plowing or chiseling						
Discing or field cultivation						
Weed control (cultivators or spraying)						
Planting						
Harvesting						

LIVESTOCK REPORT

1. Amount of feed
   1. _____ *(State unit.)*
   2. _____ *(State unit.)*
   3. _____ *(State unit.)*
   4. _____ *(State unit.)*
2. Feed per pound of gain or production unit _____
3. Rate of gain or total production _____ *(State unit.)*
4. Rations throughout the feeding period. *(Include protein levels.)*

5. Space requirement per head over the entire production cycle. State if more than one change in space requirement. *(Example:* market hogs*)*

   A. _____ sq. ft. B. _____ sq. ft. C. _____ sq. ft.

6. Feed cost per pound of gain or production unit - $ _____ .
7. Total cost per pound of gain or production unit - $ _____ .
8. Profit per unit - $ _____ .

BUDGETS FOR CROP OR LIVESTOCK ENTERPRISE

Use this page when not using a computer

①	Number or Amount	Price per Unit	Total Value/Cost
Estimated Returns		$	$
.eturns			
Estimated Cost			
Total Cost			
Returns to Labor + Management = Returns — Cost			$

②	Number or Amount	Price per Unit	Total Value/Cost
Estimated Returns		$	$
Total Returns			
Estimated Cost			
Total Cost			
Returns to Labor + Management = Returns — Cost			$

BUDGETS FOR CROP OR LIVESTOCK ENTERPRISE *(continued)*

③	Number or Amount	Price per Unit	Total Value/Cost
Estimated Returns		$	$
Total Returns			
Estimated Cost			
Total Cost			
Returns to Labor + Management = Returns — Cost			$

④	Number or Amount	Price per Unit	Total Value/Cost
Estimated Returns		$	$
Total Returns			
Estimated Cost			
Total Cost			
Returns to Labor + Management = Returns — Cost			$

SAMPLE COMPUTER BUDGETS

CORN PROJECTION REPORT

PREPARED FOR:
VO-AG STUDENT
CENTERBURG HIGH SCHOOL
CENTERBURG, OHIO 43011

REPORT DATE:
7/18/86

NUMBER OF ACRES: 100.0

$/BU: 2.30
BU/ACRE: 120.00

	PER ACRE	TOTAL	% OF INCOME
ENTERPRISE INCOME	$276.00	$27,600.00	100.00
ENTERPRISE EXPENSES			
LAND	$ 80.00	$8,000.00	28.99
SEED	20.00	2,000.00	7.25
FERTILIZER	50.00	5,000.00	18.12
CHEMICALS	20.00	2,000.00	7.25
FUEL	10.00	1,000.00	3.62
MACHINERY	50.00	5,000.00	18.12
DRYING	15.00	1,500.00	5.43
INTEREST	10.00	1,000.00	3.62
TRUCKING & MISC.	10.00	1,000.00	3.62
ENTERPRISE PROFIT	$ 11.00	$1,100.00	3.99

SAMPLE COMPUTER BUDGETS *(continued)*

MARKET HOG PROJECTION REPORT

PREPARED FOR:
VO-AG STUDENT
CENTERBURG HIGH SCHOOL
CENTERBURG, OHIO 43011

REPORT DATE:
7/18/86

NUMBER OF HEAD: 1.0

$/LB.: 0.46
LB./HEAD: 240.00

	PER HEAD	TOTAL	% OF INCOME
ENTERPRISE INCOME	$110.40	$110.40	100.00
ENTERPRISE EXPENSES			
FEEDER PIG	$ 40.00	$ 40.00	36.23
CORN	23.00	23.00	20.83
SUPPLEMENT	14.00	14.00	12.68
BLDG. & EQUIP.	10.00	10.00	9.06
MISC.	10.00	10.00	9.06
ENTERPRISE PROFIT	$ 13.40	$ 13.40	12.14